WO 2004/111515 PCT/NO2004/000171

6

Patent claims

1.

5

10

A marine, flexible, integrated umbilical (for control, injection or production), which umbilical (10) comprises a number of fluid flow pipes (7; 7'; 7'') and optionally electric conductors (8; 8'), filler material between the fluid flow pipes and the possible electric conductors, said filler material comprises several inner and outer channel elements (2, 3, 4; 6, 9; 6', 9') being twisted about the longitudinal axis of the umbilical and assembled such that they form channels (11; 11'; 11") for receipt of the fluid flow pipes and the possible electric conductors respectively, said pipes and conductors being axially free movable within the channels, and an outer sheath (1; 1'; 1") of suitable material, characterized in that an armouring and weight adding band (B) is wrapped around the filler material and is laid between the filler material and the outer sheath (1; 1'; 1") in the finished umbilical (10).

15

A marine, flexible, integrated umbilical according to claim 1, characterized in that the armouring and weight adding band (B) is made of a metallic material, such as a band of

steel.

2.

20

3.

A marine, flexible, integrated umbilical according to claim 1 or 2, characterized in that the armouring and weight adding band (B) is cross laid around the filler material, optionally in several layers.

25

30

4.

A marine, flexible, integrated umbilical according to claim 1,2 or 3, characterized in that the armouring and weight adding band (B) has a width in the order of 40-60mm and thickness in the order of 0,6-1,0mm.